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REMARKS

The present application was filed as a Divisional application of U.S. Pat. Application Ser. No. 08/952,445 filed November 18, 1997. In the Office Action dated May 28, 1999, in the parent application, Applicants were given a two-way restriction requirement. Applicants elected the Claims in Group I in the parent case. Thus, the present application is directed to the claims designated as Group II (*i.e.*, originally filed Claims 23, and 25 - 32). In a Preliminary Amendment filed with the present application on October 15, 2001, Applicants cancelled Claims 1-22, 24, 31 and 32 and Claims 33-39 were added. Thus, as of the present Office Action, Claims 23, 25-30, and 33-39 were pending.

The Examiner has objected to Applicants' characterization of the parent application as set forth in the Preliminary Amendment. Applicants have corrected the clerical error made in the Preliminary Amendment, to correctly indicate the relationship of the present application to the prior applications in its lineage. Applicants note that the Examiner has indicated Claim 34 is objected to as being dependent upon a rejected base Claim, but would be allowable if rewritten in independent form. The Examiner's rejections are herein addressed in the following order:

- 1) Claims 35-37 stand rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite;
- 2) Claims 23, 25-30, 33, and 35-39 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not meeting the written description requirement;
- 3) Claims 23, 25-30, 33, and 35-39 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly not being enabled;
- 4) Claim 33 stands rejected under 35 U.S.C. §102(b), as allegedly being anticipated by *Faulds et al.* (1994);
- 5) Claims 23 and 35-37 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by, or in the alternative under 35 U.S.C. §103(a), as being allegedly obvious under *Faulds et al.* (1994), as evidenced by *de Vries et al.* (1997);
- 6) Claim 25 stands rejected under 35 U.S.C. §103(a), as allegedly being obvious under *Faulds et al.* (1994) as evidenced by *de Vries et al.* (1997), in view of *Christov et al.* (1993); and

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7) Claim 26 stands rejected under 35 U.S.C. §103(a), as allegedly being obvious under *Faulds et al.* (1994) as evidenced by *de Vries et al.* (1997), in view of *Cuperus et al.* (WO 95/35362).

1) The Claims are Definite

The Examiner has rejected Claims 35-37 under 35 U.S.C. §112, second paragraph as allegedly being indefinite. Applicants have amended Claim 35 to properly recite the esterase, rather than a method, as Claim 23 is not a method Claim. Thus, Applicants respectfully request that this rejection be withdrawn.

2) The Written Description is Met

The Examiner has rejected Claims 23, 25-30, 33, and 35-39 under 35 U.S.C. §112, first paragraph, as allegedly not meeting the written description requirement. The Examiner indicates that "[n]o description has been provided of the common structural and/or functional features of all polypeptides encompassed by the genera of these claims. No information, beyond the characterization of SEQ ID NO:28 has been provided by applicants which would indicate that they had possession of the claimed genus of polypeptides." (Office Action, page 3). While Applicants must respectfully disagree with the Examiner's arguments, in order to further their business interests and the prosecution of the present application, yet without acquiescing to the Examiner's arguments, Applicants have amended Claim 23 to remove the recitation of a second vector. Applicants reserve the right to pursue the originally filed and/or broader Claim(s) in subsequent application(s). Applicants submit that the amended Claim finds more than sufficient support in the Specification as filed and no new matter is added. Applicants also respectfully submit that the written description requirement is met and request that this rejection be withdrawn.

3) The Claims are Enabled

The Examiner has rejected Claims 23, 25-30, 33, and 35-39 under 35 U.S.C. §112, first paragraph, as allegedly not being enabled. However, Applicants note that the Examiner admits that the Specification is enabling for the esterase of SEQ ID NO:28.

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As indicated above, Applicants have amended Claim 23 without prejudice to recite the esterase set forth in SEQ ID NO:26 (*i.e.*, a 650 base pair fragment corresponding to the gene encoding a 38 kD esterase isolated from *A. niger*) or SEQ ID NO:28 (*i.e.*, the amino acid sequence corresponding to the gene encoding a 38 kD esterase isolated from *A. niger*). Thus, Applicants respectfully submit that the Claims are enabled and request that this rejection be withdrawn.

4) Claim 33 is Novel

The Examiner has rejected Claim 33 under 35 U.S.C. §102(b), as allegedly being anticipated by Faulds *et al.* (1994). In particular, the Examiner argues that "Faulds *et al.* teach the isolation and purification of an *Aspergillus niger* ferulic acid esterase (FAE-III) with a molecular weight of 36 KD. 36 KD is well within the range of experimental error in molecular weight estimates by SDS-PAGE and thus clearly within 'about 38 KD' as recited in Claim 33." (Office Action, page 8).

Applicants must respectfully disagree. Applicants submit that the esterase of the presently claimed invention is different from that described in the Faulds *et al.* reference. Although the reported SDS-PAGE molecular weight values are similar, the esterase of the present invention has different substrate specificity than the FAE-II and FAE-III of the prior art (See, Specification at page 2, line 21-24). As indicated on page 2 of the Specification, FAE-II and FAE-III were unable to release ferulic acid from sugar beet pulp. This is in contrast to the presently claimed enzyme which has this capability, as shown in Example 8. Furthermore, in order to further their business interests and the prosecution of the present application, yet without acquiescing to the Examiner's arguments, Applicants have cancelled Claim 34 and amended Claim 33 to recite that the claimed esterase comprises the sequence set forth in SEQ ID NO:28 or SEQ ID NO:26. Applicants reserve the right to pursue the originally filed and/or broader Claims in additional application(s). As the Faulds *et al.* reference fails to disclose the sequence set forth in SEQ ID NOs:26 or 28, and the present enzyme has a different substrate specificity, Applicants respectfully submit that the claimed enzyme is not anticipated by Faulds *et al.* Thus, Applicants request that this rejection be withdrawn.

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5) The Claims are Novel and Unobvious

The Examiner has rejected Claims 23 and 35-37 under 35 U.S.C. §102(b), as allegedly being anticipated by, or in the alternative under 35 U.S.C. §103(a), as being allegedly obvious under *Faulds et al.* (1994), as evidenced by *de Vries et al.* (1997). In particular, the Examiner argues that "de Vries et al. teach the amino acid sequence and encoding nucleic acid sequence of the ferulic acid esterase isolated by *Faulds et al.* The amino acid sequence of the FAE-III protein is 95% identical to SEQ ID NO:28 and encoded by a nucleotide sequence which is greater than 90% identical to the corresponding region of SEQ ID NO:29. Thus de Vries evidences that the ferulic acid esterase taught by *Faulds et al.* is encoded by a nucleic acid that will hybridize to SEQ ID NO:29 under the conditions recited in Claims 23 and 35-37." (Office Action, page 8).

Applicants must respectfully disagree. Applicants also note that the Examiner admits that the *de Vries et al.* reference is not prior art. Also, as indicated above, Applicants have amended Claims 23 and 35 without prejudice. As neither *Fauld et al.*, nor *de Vries et al.* teach the sequences set forth in SEQ ID NOS:26 and 28, neither reference, taken alone or in combination, anticipates the presently claimed invention. Likewise, as there is no suggestion or teaching in these references of the claimed sequences, the presently claimed invention is unobvious over the references. Thus, Applicants respectfully request that this rejection be withdrawn.

6) Claim 25 is Unobvious

The Examiner has argued that Claim 25 is unpatentable over *Faulds et al.*, as evidenced by *de Vries et al.* (1997), in view of *Christov et al.* (1993). As the *Faulds et al.* and *de Vries et al.* references are discussed above, only the *Christov et al.* reference is discussed here. The Examiner indicates that *Christov et al.* "teach the use use of xylan degrading enzymes including ferulic acid esterases for the improvement of animal feed digestibility. (see pages 471-473). Therefore, it would have been obvious to one of ordinary skill in the art to add the ferulic acid esterases of *Faulds et al.* to an animal feed composition in order to improve the digestibility of the feed as taught by *Christov et al.*" (Office Action, page 10).

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Applicants must respectfully disagree. As indicated above, the esterase of Faulds *et al.* is different from the presently claimed esterase. Nor is there any teaching in either reference of the esterase set forth in SEQ ID NOS:26 and 28. Thus, there is no teaching in Faulds *et al.* nor Christov *et al.* of a feed supplement that comprises the presently claimed esterase. As the presently claimed invention is unobvious over these references, Applicants respectfully request that this rejection be withdrawn.

7) Claim 26 is Unobvious

The Examiner has argued that Claim 26 is unpatentable over Faulds *et al.*, as evidenced by de Vries *et al.* (1997), in view of Cuperus *et al.* (WO 95/35362). As the Faulds *et al.* and de Vries *et al.* references are discussed above, only the Cuperus *et al.* reference is discussed here. The Examiner indicates that Cuperus *et al.* teach the use of xylan-degrading enzymes including ferulic acid esterases for textile cleaning. The Examiner argues that "it would have been obvious to one of ordinary skill in the art to add the ferulic acid esterase of Faulds *et al.* to a detergent composition and to use the detergent composition for cleaning textiles in order to improve the removal of stains of vegetable origin as taught by Cuperus *et al.*" (Office Action, page 11).

Applicants must respectfully disagree with the Examiner's arguments. As indicated above, the esterase of Faulds *et al.* is different from the presently claimed esterase. Nor is there any teaching in either reference of the esterase set forth in SEQ ID NOS:26 and 28. Thus, there is no teaching in Faulds *et al.* nor Cuperus *et al.* of a detergent composition that comprises the presently claimed esterase. As the presently claimed invention is unobvious over these references, Applicants respectfully request that this rejection be withdrawn.


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CONCLUSION

All grounds of rejection and objection of the Office Action of May 7, 2003, having been addressed, reconsideration of the application is respectfully requested. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicants encourage the Examiner to call the undersigned.

Respectfully submitted

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